

Appl. No. 10/618,965  
Docket No.: H1799-00207  
Reply to Office Action dated November 17, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) A tower heat pipe comprising:  
a tube having an internal surface at least partially covered with a wick, a working fluid disposed within said tube, a sealed first end, and at least one fin projecting radially outwardly from an outer surface of said tube;  
a base sealingly fixed to a second end of said tube, and having a grooved sintered wick disposed on at least a portion of an internal surface;  
said grooved sintered wick comprising a plurality of individual particles which together yield an average particle diameter, and including at least two lands that are in fluid communication with one another through a particle layer disposed between said at least two lands wherein said particle layer comprises at least one dimension that is no more than about six average particle diameters.
2. (Original) A tower heat pipe according to claim 1 wherein said particle layer comprises a thickness that is about three average particle diameters.

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3. (Original) A tower heat pipe according to claim 1 wherein said particles are formed substantially of copper.

4. (Original) A tower heat pipe according to claim 1 wherein said six average particle diameters is within a range from about .05 millimeters to about .25 millimeters.

5. (Original) A heat pipe comprising:  
a tubular enclosure having an internal surface covered by a wick and sealed at a first end;  
a base sealing fixed to a second end of said enclosure so as to form an internal surface within said enclosure;  
a working fluid disposed within said enclosure;  
at least one fin projecting radially outwardly from an outer surface of said tubular enclosure; and  
a grooved sintered wick disposed upon said internal surface formed by said base, said grooved sintered wick comprising a plurality of individual particles which together yield an average particle diameter, and including at least two lands that are in fluid communication with one another through a particle layer disposed between said at least two lands wherein said particle layer comprises at least one dimension that is no more than about six average particle diameters.

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6. (Original) A heat pipe according to claim 5 wherein said particle layer comprises a thickness that is less than about three average particle diameters.

7. (Original) A heat pipe according to claim 5 wherein said particles are formed substantially of copper.

8. (Original) A heat pipe according to claim 5 wherein six average particle diameters is within a range from about .005 millimeters to about .5 millimeters.

9. (Original) A heat pipe according to claim 5 wherein said particle layer extends between a terminal portion of said lands and adjacent portions of said enclosure on said internal surface.

10. (Original) A heat pipe according to claim 5 wherein said particle layer is formed from a material selected from the group consisting of carbon, tungsten, copper, aluminum, magnesium, nickel, gold, silver, aluminum oxide, and beryllium oxide.

11. (Original) A tower heat pipe comprising:

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a tube having an internal surface, a working fluid disposed within said tube, a sealed first end, and at least one fin projecting radially outwardly from an outer surface of said tube;

a base sealingly fixed to a second end of said tube, and having a grooved sintered wick disposed on at least a portion of an internal surface;

said grooved sintered wick comprising a plurality of individual particles which together yield an average particle diameter, and including at least two lands that are in fluid communication with one another through a particle layer disposed between said at least two lands wherein said particle layer comprises at least one dimension that is no more than about six average particle diameters.